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| 10/528,860 | 03/23/2005 | Miles Maiden | 108030-0005 | 4172 |
| 24267 7590 12/24/2008 CESARI AND MCKENNA, LLP 88 BLACK FALCON AVENUE BOSTON, MA 02210 | | | | |
| EXAMINER | | | | |
| CECIL, TERRY K | | | | |
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| 1797 | | | | |
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| 12/24/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,860

Applicant(s)

MAIDEN, MILES

Examiner

Mr. Terry K. Cecil

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 15, 17, 19-20, 24-26, 32-33, 35-38, 40, 42-43, 45-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Gadgil et al. (U.S. 6,419,821)--as evidenced by Gadgil et al. (U.S. 5,780,860) incorporated by reference.

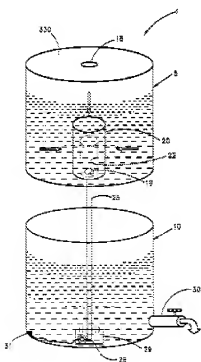


FIG. 1A

Gadgil teaches many embodiments of a purification module for use with a portable container and teaches all the limitations of the aforementioned claims as follows. The module includes a tubing 25 and a UV lamp [light source] 28 that is a UV LED (col. 5, lines 1-5) and is “most preferably” positioned within the tubing (col. 5, lines 54-56). The UV light source is powered by a [dc] battery source (col. 5, line 9). As evidenced in Gadgil ‘860, a sensing circuit is included for powering the UV light source whenever water is inputted into the inlet and turns off the UV light source when water is stopped being inputted into the inlet (see col. 13, lines 58-62

of Gadgil '860). The means for signaling when hydrating fluid is to flow along the path also includes a user-activated on/off switch 44. The turning on and off of the lamp can also be in automatic response to the opening and closing of a valve by a user (see claims 46 and 47 of the primary Gadgil reference). Also, as disclosed in Gadgil '860, a solenoid valve 29 is configured to stop the flow water if there is a stoppage of power to the UV light source (which would coincide with a loss of sufficient intensity to treat the water). The UV light source doses the water with at least about 40mW-s/cm² (or 40mJ-s/cm²). A ceramic filter 20 is also provided to remove sediments from the water before UV treatment. The filter 20 also slows down the flow past the UV light source such that the water is thoroughly treated. The flow path can also include a widened section for UV treatment (see 29 at figure 1, or figure 2, or figure 10). A pump can also be included for introducing water (col. 3, lines 63-65).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

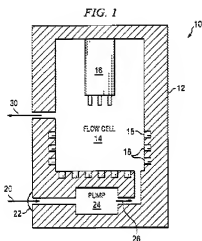
4. Claims 1-2, 4, 8-11, 15-17, 19-20, 24-26, 32-33, 35-40, 42-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iana et al. (U.S. 5,167,819) in view of Gadgil (and that incorporated by reference) and Sauska et al. (U.S. 5,230,792).



Iana teaches a water bladder (bottle) container in a wearable pack hydration system including a water flow path filtering water via filter 17 and delivering to a tube having a mouthpiece for drawing water into the mouth like a straw. Iana doesn't teach a UV LED in the tube for treating water flowing therethrough. However, as shown above, Gadgil teaches a portable water treatment system that includes a UV LED within a tube 25 for treating filtered water flowing therethrough as well as a circuitry for controlling the UV source to power on/off when water is flowing into the inlet. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the UV LED and control circuitry of Gadgil in the invention of Iana since such would provide the benefit of killing dangerous microbes in the drinking water. The modified Iana doesn't teach a flow sensor for signaling the on/off control of the UV source but such is taught by Sauska. Sauska teaches a flow sensor 24 (figure 3) for signaling to a UV light source controller. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the flow sensor of Sauska in the invention of the modified Iana, since such would provide the benefit of turning on/off the power of the UV LED when needed. As for claim 48, since having the UV light source in the form a UV LED does not require a ballast, the skilled man would *not* include soft or delay circuitry for controlling the LED that are commonly found in conventional UV lamps. LEDs are well known to be instant on/off. As for claim 39, converting energy from

the pumping action to DC power is known, as admitted by the applicant (see paragraph [0026] of his published application).

5. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iana, as modified above in view of WO 03/065032; and claims 27-29 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gadgil in view of ordinary skill in the art or in view of WO 03/065032 or Iana. These claims differ in that they require the bladder or container to



include a

plurality of UV leds. As for claims 27-29, Gadgil teaches that a UV LED (the UV light source) can be included in his container. Having a plurality of UV LEDS would have been within ordinary skill in order to have the benefit of more thoroughly treating the water. Alternately, as for claims 12-14 and 27-29, WO '032 teaches a "container" 12 that includes UV LEDS 18 in the walls thereof. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the UV LEDS in the walls of the bladder since '032 teaches the benefit of treating algae, fungi, and microbes that can build up on the walls of the container.

The skilled man would realize the benefit of preventing a slime coat build up in the container that could compromise the effectiveness of the UV treatment.

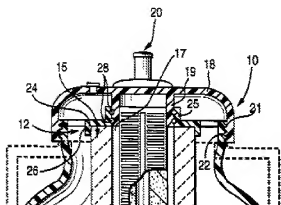
6. Claims 3, 5, 21, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Gidgil or Iana (modified in section 4 above) in further view of Forsberg et al. (U.S. 6,182,453). Forsberg teaches solar charged batteries for powering UV devices (col. 1, lines 25-27; col. 10, lines 19-200; and col. 44, line 19) [as in claims 15, 20-21, 32-34, 38 and 40-41]. It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the solar charged batteries of Forsberg as the power sources of Gidgil or the modified Iana since Forsberg teaches the benefit of purifying water in places remote from conventional public power systems.

7. Claims 6-7, 22-23, 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified Gidgil or Iana (in section 6 above) in further view of Morrow (U.S. 6, 712,414). The modified references don't teach the wearable pack to be made of photovoltaic material. However, Morrow teaches a photovoltaic material for a mobile camping apparatus.

"Another object of this invention is to provide a mobile, expandable structure that the two top sections of the side sections can be covered with a waterproof photovoltaic material that will generate electrical power."

It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the photovoltaic material of Morrow on the outer surface of the wearable pack or container of the modified Gidgil or Iana, since such would provide the benefit of producing free electrical power the UV devices when used in a remote area.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iana (as modified in section 4 above) in further view of Nohren, Jr. (U.S. 6,193,886). Nohren teaches a pull valve at the top of a container. However, Nohren teaches such a valve 20, as shown in his figure.



It is considered that it would have been obvious to one ordinarily skilled in the art at the time of the invention to have the push-pull valve at the top of the container of the modified Iana, since such would provide the benefit of easy, quick useage by the camper. Upon modification, the

opening of the valve would activate the UV devices.

9. *In addition, the rejections of the claims in the final rejection is also incorporated by reference since Applicant's arguments are not convincing and amendment ineffective.*

Response to Arguments

10. Applicant's arguments filed 12-11-2008 have been fully considered but they are not persuasive. Applicant's arguments are based on his belief that incorporating the soft and delay circuits of Engelhard to power the UV light sources of the modified references would destroy the inventions thereof. First of all, it is pointed out that Applicant's amended claims do not preclude the existence of a time delay between the signaling of flow (or ceasing of flow) and the turning on (or off) of the UV LED. Secondly, Engelhard's soft/delay circuitry are included for reasons

associated with conventional UV lamps which include a ballast. However, one skilled in the art when desiring to automatically control a UV LED by signals from a flow sensor would **not** also incorporate parts of the start-up circuitry associated with a ballast—since UV LEDS do not include a ballast. The modified references of the final rejection would include start-up circuitry which turn on/off in response to a signal from flow sensor (and would NOT include e.g. soft-start circuitry which are NOT needed for UV LEDS).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Terry K. Cecil whose telephone number is (571) 272-1138. The examiner can normally be reached on 8:00a-4:30p M-F..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mr. Terry K. Cecil/
Primary Examiner, Art Unit 1797

tkc